

BOTANICAL EXTRACTS

TOBACCO DECOCTION PREPARATION METHOD

- Nicotine in Tobacco control the pests through contact
- Tobacco decoction can be used against Whitefly and other sucking pests.

Required Material:

- Tobacco waste–1Kg
- Soap nut powder – 100 gm

Method of Preparation:

- Boil 1 Kg Tobacco waste in 10 L of water for 30 minutes
- Add water regularly
- Cool the decoction and filter it through a thin cloth
- Add the filtered decoction and 100 grams of soap nut powder (Sticking agent) to 100 lts of water, it is sufficient for 1 acre and apply it in the evening time.



Precautions:

- Tie a cloth to nose while making the decoction
- Cover entire body while spraying
- Apply only once on a crop, otherwise friendly insects may die
- Never store the decoction.

<https://www.youtube.com/watch?v=AAvphcG0blg> – English video

VITEX LEAVES DECOCTION (SINDUVARA PATHRA DECOCTION)

Presence of many alkaloids makes Vitex as an effective pesticide and fungicide. Its acts as anti-bacterial and anti-fungal.

Required Material

- Boil 5 Kg of Vitex leaves in 10 L of water for 30 min
- Stir the boiling solution regularly
- Cool the solution and filter through a thin cloth
- Add 100 gm soap nut powder to the decoction
- Add this decoction to 100 lts of water and spray in 1 acre
- Spray the decoction in the evening time.



Precautions:

Tie a cloth to nose while making the decoction

Depending on the crop stage and pest intensity, this can be applied for two to three times

- Never store the decoction



Note: We can also make a decoction with leaves of custard apple. This decoction also effectively works against the above mentioned pests.

COW DUNG AND URINE SOLUTION

- Large number of microbes present in the cow dung and urine are useful in controlling many fungal diseases
- Nutrients present in the solution are useful for effective plant growth
- This can be applied for two to three times in a crop period

Required Material

- Fresh Cow dung–5Kg □ Cow urine – 5 L □ Lime – 50 gms

Method of Preparation:

Store 5 Kg cow dung, 5 L of cow urine and 5 L of water in a tub
Cover the tub and allow the solution to ferment for 4 days

Stir the solution with a stick every day

After 4 days filter the solution and add 50gms of lime to it

Add 100 L of water to the solution to spray it in 1 acre

Precautions:

As this solution is thick, use a mesh or gunny bag to filter the solution (first time)

After that add water and filter through a thin cloth

We can store the solution for 1 or 2 days (farmer's experience)

Note:

This solution will improve the resistance power of the crops

Spraying of this solution will improve the drought resistant capacity.



Fresh Cow dung



Cow urine



Lime Powder

COW DUNG – URINE – ASAFOETIDA CONCOCTION

Mix 5 kg of cow dung, 5 lts of cow urine and 5 lts of water in a vessel and keep it for 4 days duly stirring the contents two times a day with a wooden stick. Mixing of 200g of Asafoetida in cow dung and urine make it a strong fungicide. This solution is effective against Blast in Paddy.

On 5th day mix 250 gms of asafoetida in 2 lts of boiling water. After cooling add the same to the dung- Urine solution and thoroughly stir it and filter it. This is Cow dung – Urine – Asafoetida concoction. It is also effective against fungal and bacterial diseases in Paddy

Presence of Sulphur (Di-sulphide) in Asafoetida makes this solution as a fungicide as well as bactericide.

How it Works

The fermentation process of cow dung and urine will develop microorganisms which controls the spread of the pathogens from one plant to the other.

CHILLI GARLIC SOLUTION

Alkaloids like Capsaicin and Allesin present in chillies and garlic respectively will act through contact. These will create tingling effect on the insects and will make them become sluggish, inactive and fall from the plant tree and die.

Required Material

- Green Chillies-3 kg
- Garlic - ½ kg
- Kerosene – 250 ml
- Soap nut powder – 50 gm



Method of Preparation:

- Grind the chillies after removing the petioles and add 10L of water to it. Keep this solution overnight.
- Grind the 1/2 kg garlic and add 250 ml kerosene and keep overnight
- Next day morning filter the chilli solution through a thin cloth. Do the same for garlic solution
- Mix chilli solution, garlic solution and soap nut powder thoroughly and make a mixture
- Add 100 Lts of water to the above solution. This can be applied for one acre

Precaution:

- Apply oil to the body while preparing this decoction
- Cover the body while spraying
- Apply this solution only one or two times during the cropping season.

5% NEEM SEED KERNEL EXTRACT

The alkaloid “Azadirachtin” present in the Neem will affect different stages of the pest life cycle. It will act as a sterilant on eggs of all major pests and make them devoid of life. It can act as an effective repellent to all the pest insects and reduce the infestation of pests through stomach and on contact

Required Materials

- Neem seeds – 5Kg | Soap nut powder – 100 gm

Method of Preparation

- Good quality 5 kg Neem seeds (Shade dried) dried under shade
- Grind the neem seed and make it powder
- This powder can be packed in cloth and kept in 10 L of water for 10-12 hrs
- Extract the decoction by squeezing pressing the cloth pack for 10- 15 minutes
- Filter this solution through a thin cloth
- Add 100 gm of soap nut powder to the filtered solution
- Add 100 L of water to the solution and spray it in 1 acre during evening time



Note

- 5-10 kg of Neem powder is required (depending on the crop stage and pest intensity)
- This solution cannot be stored
- Depending on the crop stage and intensity increase the dosage
- This solution can be used on all crops and nurseries
- This solution can be used in orchards to get better yields
- Instead of soap powder we can use 500 gm of soap nut

Uses of Neem seed kernel extract

- It affects egg and larva stages of the crop pests. Larvae cannot feed on the leaves, as the Neem extract coated leaves taste bitter
- “Azadirachtin”, which is present in the Neem, affects the life cycle of the pests. The pest will die as larvae or pupae
- This solution will not affect human health, friendly insects and environment.
- “Lemonoids” present in Neem will help in keeping the crop healthy

OTHER PRODUCTS OF NEEM:

1. NEEM OIL (It is available in 1500 ppm, 5000 ppm, 10,000 ppm concentrations):

- Generally Neem oil is available in the market. Pure Neem oil can be used in pest control
- 5% solution of Neem oil is effective in pest control (50 ml of Neem oil in 1 L water and prepared to 100 L of solution can be used per one acre)
- As Neem oil is insoluble in water, acts as a spreading agent by mixing 100 grams soap nut solution. Depending on pest intensity spray 100-150 L of solution.



Pests controlled:

Sucking pests, fruit borers and leaf folders can be controlled with this solution.

NEEM POWDER:

- Neem powder or Neem cake can be obtained after extracting Neem oil
 - Neem powder contains 5.2% to 5.6% of Nitrogen, 1.1% of Phosphorus, 1.1% of Potash
 - 1-2 q of Neem cake can be applied per 1 acre
 - It is effective against soil borne pests
 - It can be applied at the time of ploughing
 - It can be applied before sowing the seeds in nurseries
- Pests controlled: Soil borne nematodes and root grubs



Precautions: for storing Neem seeds:

Do's

- a) Collect ripened and dropped fruits in June and July.
- b) Remove seeds from fruits regularly.
- c) Dry the seeds under shade.
- d) Store the seeds in gunny bags.

Don'ts

- 1) Don't store the seeds more than one year
- 2) Don't dry under sun light
- 3) Don't store in polythene bags

Note: If seeds are stored in large quantities add 500 g mixture of Sulphur and lime in 1:10 ratio per quintal of seeds.

NEEMASTHRAM

Used against small and sap sucking pests

Mix 10 kg of grinded Neem leaves into 200 L water. Add 10 L cow urine and 2 kg of fresh cow dung to this mixture and mix well. Let it ferment for 24 hrs to 48 hrs and filter through a cloth. Spray the solution directly on the crop without mixing the water in the fields.



5% PONGAMIA SOLUTION

Presence of alkaloids like “Karingin” and “glabrin” other alkaloids in the Pongamia seeds are useful in controlling pests and diseases.

Required Materials:

- Pongamia seeds – 5 kg

Method of Preparation:

- Separate the seed from the hard coat and soak 5 kg of seed for an hour in water
- Make a paste out of the soaked seeds
- Take the paste in a cloth and soak in a container of water for another 10 – 12 hr
- Extract the Pongamia solution by squeezing the solution for 15-20 minutes
- Add 100 g of soap nut powder to the extract
- Mix the mixture in 100 L of water and spray in an acre.

NOTE:

- Depending on the stage of the crop and the intensity of damage, this can be sprayed 2-3 times per season
- Soap nut powder can be substituted with Soap nut powder or Sheekai powder (500 g)
- This extract cannot be stored and is used in all kinds of crops.



BRAHMASTRAM / DECOCTION FROM LEAVES

Required Material:

- Neem leaves : 3 kg
- Pongamia Leaves : 2 kg.
- Vitex Leaves : 2 kg.
- Custard apple Leaves : 2 kg.
- Papaya leaves Leaves : 2kg
- Datura Leaves : 2 kg
- Guava leaves : 2 kg
- Bitter gourd Leaves– 2 kg



Neem Leaves

Neem Leaves



Pongamia

Pongamia



Papaya

Papaya



Vitex

Vitex



Custard Apple

Custard Apple



Guava Levaees

Guava Levaees



Datura

Datura



Bitter gourd

Bitter gourd



Lantena

Lantena

Method of Preparation:

Take any 5 types of afore mentioned plant leaves (neem must). Keep all these leaves in a pot and add 10 L of water. Keep them for whole night

Next day boil the water. Keep on stirring the solution and boil the water until the solution becomes 5 L decoction. Cool the decoction

Filter the solution and add 10 liters of cow urine and add 100 g of soap powder. Mix this solution to 100 -150 L of water to spray in one acre.

Precaution:

Add 0.5 L of decoction to 10 L tank Add 0.75 L of decoction to 15 L tank Pests controlled:

- Sucking pests
- Small larvae
- Grass hoppers
- Fruit borers

How to use:

This decoction can be applied to all crop types. Based on the intensity of pest it can be used for one –two times in a crop period

Precaution:

- Cover your nose with a cloth while preparing the Solution
- For effective results spray this solution during evening time
- Don't store the solution
- Don't spray this solution during early stages (30-45 days) of the crop
- Don't spray this solution on nurseries

How it works:

- Presence of different alkaloids makes this decoction effective in pest control.

DRY CHILLI GARLIC SOLUTION**Required Materials:**

- Dry chillies – 1Kg

□

- Garlic – 1Kg



Method of Preparation:

- Grind 1 kg dry chillies and add 5 liters of water and keep the solution over night
- Take one kg of garlic (remove top layer) and grind it to make paste and add 5 liters of water and keep it over night
- Next day mix the two solutions and filter it through a thin cloth
- Keep the mixture for four hours and add 100 lts of water
- This can be sprayed on one acre of Paddy field

Precaution:

- This decoction can be applied only twice in a crop period
- Don't store the decoction, spray immediately
- Apply oil to the body while preparing the solution
- Cover the entire body while applying this decoction

AGNIASTRAM

Presence of Alkaloids makes this concoction effective in pest control

This decoction is effective against the most of lepidopteron pests like Helicoverpa, Spodoptera and

Red hairy cater pillar etc.

Required Material

Neem leaves – 5Kgs 2 Kgs

Tobacco waste – 1 Kg

- Garlic – ½ kg **1Kg**
- Green chillies– 1Kg
- Cow urine – 10 L **5 L**

Method of Preparation:

Grind all the above mentioned materials except tobacco waste.

Add tobacco wastes to the mixtures and boil in 10-15 lts of water for half an hour. Then cool the contents filter it
it Take 3 lts of filtered extract add 10L 5 L of cow urine, 100 lts of water spray for 1 Acre.

The filtered solution can be stored upto 3 months. Store it for 10 days. Stir the solution every day.

Filter this solution after 10 days and add 100 L of water and this can be sprayed in 1 acre of land.

Precaution:

- This can be applied on 1-2 times during a crop period to get maximum benefits.
- Don't store the solution.
- Apply oil to your body while preparing the solution.
- Cover your body while spraying the solution.

BEAL LEAF DECOCTION

Presence of many Alkaloids in Beal leaves will help in disease management

This decoction is effective in controlling blast and sheath blight in Paddy

Required Material

- Beal leaves – 5 Kg
- Soap nut powder – 100 gms Detergent – 100g



Method of Preparation:

- Take 5 Kg of Beal leaves and boil them in 10 Ltrs of water for 30 minutes and stir it with a stick regularly
- Filter the solution after cooling
- Add 100 g of soap nut powder detergent
- Add 100L of water to the solution and spray the solution in one acre during evening time

Precaution:

- This decoction can be used 1-2 times during a crop period
- Spray the decoction on the field immediately after preparation
- Don't store the solution
- Cover your nose with a cloth while preparing the decoction

BASIL LEAVES DECOCTION

Presence of Alkaloids in Basil makes it effective in disease management. This decoction is effective against leaf-spots and Alternaria leaf spots.

Required Material

- Picchi thulasi (Basil) leaves – 5 kgs
- Soap nut powder Detergent – 100 g

Method of Preparation:

- Take 5 kg of Basil leaves and add 10 liters of water and boil it for 30 minutes
- Stir the solution regularly
- Cool the decoction and filter it through a thin cloth
- Add 100 g of Soap nut powder detergent
- Add 100 L of water and spray it in the evening.

Precaution:

- This decoction can be sprayed only 1-2 times during a crop period.
- Don't store the decoction.

**FUNGICIDE (SOUR BUTTER MILK)**

- Used against all kinds of blight, blast and other leaf spot diseases

Ferment 2 lts of curd for 3-4 days and make butter milk up to 6 lts .for 3 days. Mix 6 L of fermented buttermilk with 100 L of water and spray in the field for 1 Acre

DRIED GINGER – MILK EXTRACT:

Can be used against all kinds of diseases

Materials Required:

- Dried Ginger Powder : 200 gm
- Water : 2 L
- Cow or Buffalo Milk : 5 L
- Buttermilk can be substituted for milk

Mix 200 grams of dried ginger powder with 2 L water and boil till the contents becomes a litre. Boil milk in another container. Cool both the contents and mix. This makes a decoction

Note:

- This decoction should be used on the same day and cannot be stored
- Mix the decoction in 200 L of water and spray per acre of crop



DATURA LEAF EXTRACT SOLUTION

Can be used against Aphids, Jassids, Thrips

- 8 kg of Datura leaves
- Grind them and boil it in 10 liters of water for ½ hour
- Cool it and filter it with fine muslin cloth and add it to 100 liters of water
- Also add 100 grams of soap nut powder 50 Grams of surf water and spray in 1 acre



N.P.V (NUCLEO POLYHEDROSIS VIRUS) SOLUTION

Pests controlled:

Three types of N.P.V viruses exists

1. Against Helicoverpa – HNPV
2. Against Spodoptera – SNPV
3. Against Red Hairy caterpillar – RHNPV.

How it works:

Pests affected by NPV virus will die. The dead caterpillars worms hang upside down from plants and shrivel. Collect 200 such affected caterpillars and grind them. This mixture will consist of NPV virus material. Spraying of this mixture on crops will spread the virus among the crop pests. In this way the virus will spread and kill the insects that harm the plants.

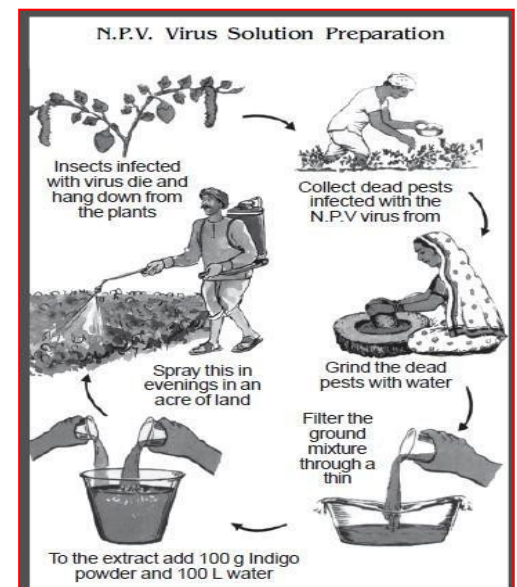
NOTE:

This solution can be sprayed 1-2times in crop a period, based on the intensity of pest incidence

Select the proper Virus extract based on the type of infestation

Dosage for HNPV is 200 LE (larval equivalent), for Spodoptera it is 100 L.E and for Red Hairy caterpillar it is 200 L.E

Store this mixture in cool place or in refrigerator.



EGG-LEMON AMINO ACID:

Take 12 eggs and keep them in a wide mouth glass jar.

Pour the lemon juice till the eggs are dipped in the juice.

Tie the jar with a cloth, keep it for 12 days. The entire eggs will melt in the jar. Then stir the contents. Add 1 kg of jaggery.

Take 250 ml of this Egg lemon solution add to 100 L of water and sprayed in 1 acre at the time of flowering and fruiting. It acts as a growth promoter and growth regulator. It supplies macro nutrients like Calcium to the crops

FISH AMINO ACID:

Take 2 kg's of fish and same quantity of jaggery keep it in a pot.

Stir it daily for 15 days.

The entire fish is digested

Then take 250 ml of Fish Amino acid mix it in 100 L of water and spray in 1 Acre.

It acts as a growth promoter

Veldt grape Concoction – for mealy bug control

(veldt grape /devils back bone /Asthi samharaka /*Cissus quadrangularis*)

Take 3 kg plant material of Nalleru /veldt grape

Take 3 kg of tamarind

500 gm of soap nut

300 gm of hing

10 litres of cow urine

Grind all the above ingredients and keep it 10 litre of cow urine and ferment it for 10 days. The solution is ready, filter it and take 3 litres of filtered solution add to 100 litre of water and spray in one acre. It effectively controls the mealy bug.

Dashaparnini

Materials required

- Neem leaves 3 kg
- Calotropis- 2kg
- vitex – 2 kg
- Pongamia -2kg
- Papaya – 2 kg
- Datura – 2 kg
- Custard apple 2 ks
- Guava 2 kgs
- Lantana – 2 kgs
- Nerium 2 kg
- Hing – 300 grams

- Cow urine 10 litres
- Fresh cow dung – 2kgs
- Soap nut 500 grams
- 200 litres of water

Preparation method

Take 200 ltrs of water in a drum add 10 litres of cow urine , 2 kgs of fresh cow dung and 300 grams of hing . Grind all the above leaves along with soap nut and add to the prepared solution, stir it daily and Ferment it for 10 days , take 10 ltrs of filtered content and 100 litres of water

The solution is effective against sucking pest and first and second instar larvae , the spraying should be done in the evening for more effective results

Sapthadhanyankura solution (TONIC)

Material Required

Wheat	– 100 Grams
Green Gram	– 100 Grams
Black Gram	– 100 Grams
Bengal Gram	– 100 Grams
Horse gram	– 100 Grams
Cow pea	- 100 grams
Sesame	– 100 Grams

10 Ltrs of Cow urine

200 Litres of water

Method of preparation

Take all the seeds and wrap in a wet/ drenched cloth and allow them to germinate for three days , on the 3rd day all the seeds get sprouted , grind the sprouted seeds into a paste and mix it in 200 liters of water in a drum , add 10 liters of cow urine allow it for 24 hours by stirring the solution in the morning , afternoon and evening , by filter the solution it can be sprayed on one acre of crop area

Uses

- It enhances the plant growth
- It supplies micro and macro nutrients to the plant , there by acts as energy booster to the plant
- The solution enhances the grain weight

Recommendation of Spraying

It is recommended to spray the solution at , budding , flowering, grain formation , and fruit formation stage , the solution is recommended for all Crops , Field crops , vegetables , and fruit crops

Aloe vera and Turmeric Solution

Material Required

1. Aloe vera-----3 kgs Gel
2. Custard apple leaves / seethaphal leaves fresh Leaves-----2 kgs
3. Turmeric Powder-----500 Grams
4. Soap Nut Powder-----500 Grams
5. Cow urine-----10 liters

Method of preparation :-

Freshly cut Custard apple leaves of 2 kgs should be grind into a paste form and Aloe vera Gel should be taken from freshly Cut Leaves with in a span of 15 minutes and added to the paste thoroughly. (The aloe vera gel gets oxidized very early since we have to take the Aloe immediately within 15 Minutes)

The Grinded paste of Custard apple and aloe vera gel should mixed thoroughly , the mixed solution should be added in 200 liters of water in a drum. Stir the solution in clock wise direction after stirring the solution add 500 grams of turmeric powder , 500 grams of Soap nut powder and 10 liters of cow urine , stir the solution well and keep it for 2 days Before spraying the solution should be filtered with the help of plain white cloth or locally available filter

The solution is ready for spraying. The solution is rich with Amino acids and Micro nutrients , acts as anti bacterial , anti fungal. The solution of 200 liters is for one acre crop

The Aloe vera and Turmeric solution if found effective in controlling DIE BACK in chilies and other crops

Botanicals Extract preparation

1. Seed treatment with beejamrutham

<https://www.youtube.com/watch?v=oS1XSxKpAMo>

Nutrient Management

1)Ghanajeevamrutham

<https://www.youtube.com/watch?v=8NKxh-N9Py4&feature=youtu.be>

2)Dravajeevamrutham

<https://www.youtube.com/watch?v=wS9wJikMYPs>

3) Azolla Mother Pit Preparation

<https://www.youtube.com/watch?v=eqs7PmAfjVk>

4) Azolla Application in Paddy_

https://www.youtube.com/watch?time_continue=2&v=nXu1A5xXJMY

5) Tonic Preparation_

<https://www.youtube.com/watch?v=9u1gFCz9M7Y&feature=youtu.be>

6) Panchagavya_

<https://www.youtube.com/watch?v=DEnZDjQm4jg&feature=youtu.be>

1)Non-Negotiables in Natural Farming Method of Paddy

<https://www.youtube.com/watch?v=DBTF09yPp9c&feature=youtu.be>

Pest & Disease Management

1) Neemastram_

<https://www.youtube.com/watch?v=f4ECXb6RtBU&feature=youtu.be>

2) Sour Butter Milk Application

<https://www.youtube.com/watch?v=0Mlru36a-AQ>

3) Dood Aour Sont Ka Dawa_

<https://www.youtube.com/watch?v=VutODQP4ZzU&feature=youtu.be>

4) Cow Dung, Cow Urine & Asafoetida Mixture_

<https://www.youtube.com/watch?v=vIerJoIEEjU&feature=youtu.be>

5) Egg Lemon Extract <https://www.youtube.com/watch?>

[v=WmuDdwBoYqU&feature=youtu.be](https://www.youtube.com/watch?v=WmuDdwBoYqU&feature=youtu.be)

6) Brahmastra <https://www.youtube.com/watch?>

[v=rZYVrW_u2eM&feature=youtu.be](https://www.youtube.com/watch?v=rZYVrW_u2eM&feature=youtu.be)

7) Agnyastra_

<https://www.youtube.com/watch?v=h547UZ->

[I9tc](#)

8) Behaya Kashya Preparation and Application to control Brown Plant

Hopper in Paddy

https://www.youtube.com/watch?v=hw_ITypeABk&feature=youtu.be

Life Cycle of Brown Plant Hopper

1) <https://www.youtube.com/watch?v=Rt5Q0eIWx2c>

Videos English Sub-titles

1) **Natural Farming Method of Tomato Cultivation**

https://youtu.be/kQSGmG_ApZo

2) Preparation of Amrutajalam https://youtu.be/Fu-O-z2dw_w

3) Woman Farmer Success Story in ZBNF - Chittoor_

<https://youtu.be/kelsxQO3IRg>

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